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On the *Laspeyresiini* Genus *Matsumuraeses* ISSIKI (*Lepidoptera, Tortricidae*)

[Pp., 89-106, 22, text-figs., pls. IX-XII]

Uwagi o rodzaju *Matsumuraeses* ISSIKI (*Lepidoptera, Tortricidae*)

Замечания о роде *Matsumuraeses* ISSIKI (*Lepidoptera, Tortricidae*)

Abstract. The known species of the genus *Matsumuraeses* are reviewed. One new species is described and redescriptions or notes are given of the others. Some names are sunk as the synonyms. A key for the identification of the males based on the genitalia is included.

INTRODUCTION

The genus was originally erected as monotypic by ISSIKI (1957) for the species *Semasia phaseoli* MATSUMURA. The first revision was given by OBRAZTSOV (1960) who discussed the morphology of the type-species only, but in 1967 the same author assigned to it four species described previously in various genera by older authors. DANILEVSKI & KUZNETSOV (1968) listed also four species two of which were not given by OBRAZTSOV. A valuable work is done by DIAKONOFF (1972) and the number of included species increased to eight.

Based on the study of extensive material the present authors introduce some changes in the interpretation of the species of the genus in question, adding some new facts and proposing a new arrangement of the species.

The authors would like express their thanks to Dr. J. D. BRADLEY of the Commonwealth Institute of Entomology, London, for his help in the translation of this paper into English.

GENERAL PART

Morphology. The morphology of the head and wing venation is accurately presented by OBRAZTSOV (1960) and DANILEVSKI & KUZNETSOV (1968). In the hindwing of the males of some species dense androconial scales occur. The individual shapes of these seem characteristic specifically (cf. last mentioned paper, p. 236) as also is the shape and magnitude of the area covered by them. Plate 1 shows the differences among *phaseoli*, *falcana* and *vicina*.

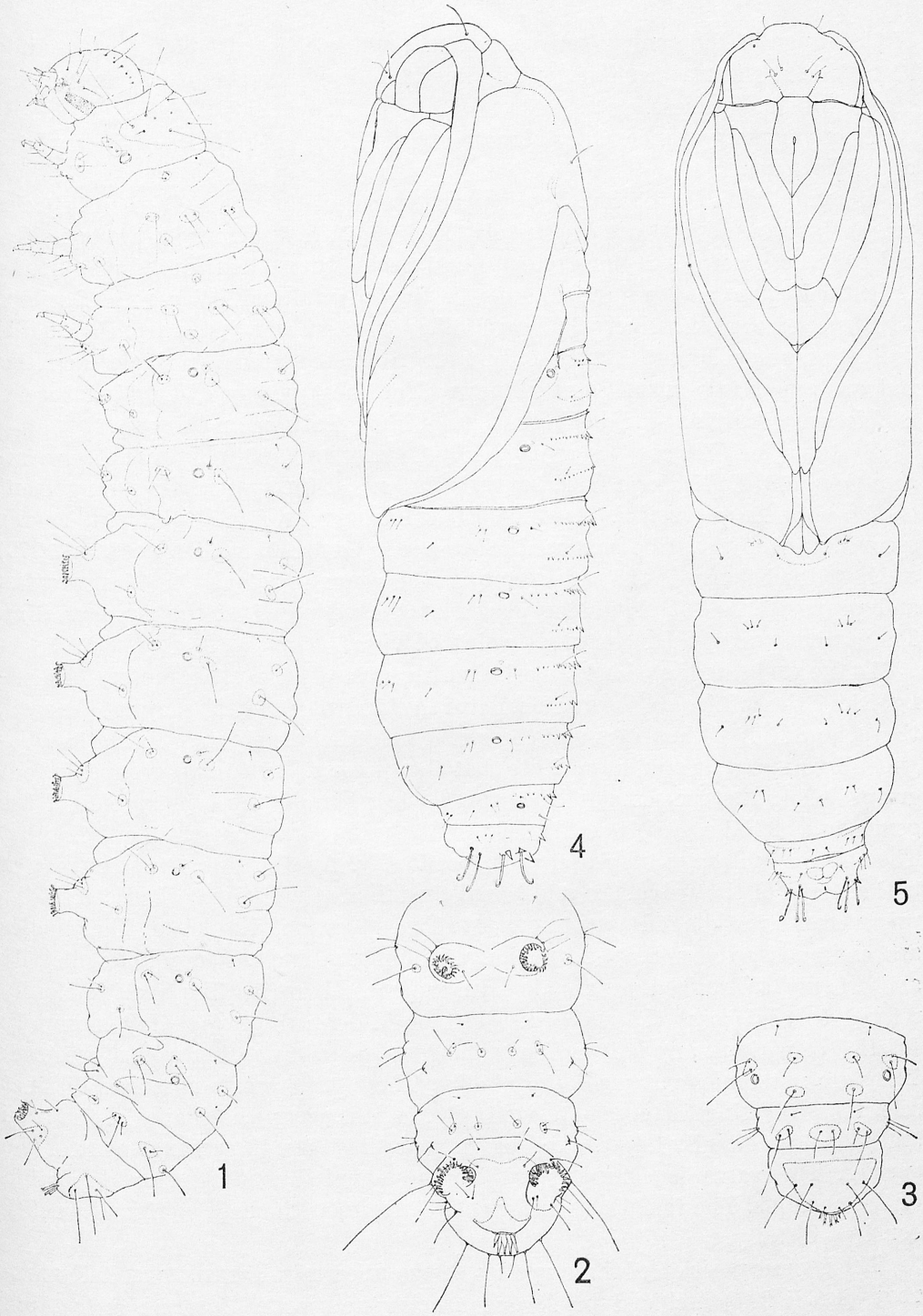
The coremata are often well developed and show specific characteristics. They consist of two pairs of scale tufts protected by membranes of the eighth segment. In *phaseoli* both pairs are situated in the seventh segment, and the ventral tuft consists of strong, thick scales. In *azukivora* (and probably other closely related species such as *elpisma*) the tufts are covered by rather well sclerotized protecting surfaces. The position of the scale tufts are different in *azukivora* to those in the *phaseoli* group, e.g., the weak dorsal tuft is situated between tergites VII and VIII and the ventral tuft in the distal part of sternite VII. Some additional data on these structures are given by DANILEVSKI & KUZNETSOV (1968: 30, 238).

Male genitalia. Tegumen with long pedunculi and often with somewhat prominent apical part. Socii situated in distal portion of the tegumen are coalescent long-haired (*phaseoli* group) or partially free, short-bristled (*azukivora* group). In *melanaula* the socii are membranous, almost completely atrophied. Tenth sternite more or less distinct, often well sclerotized and coalescent with terminal part of the digestive tract. Valva long, broad basally with long costa and large cucullus. Sacculus reaching to before middle of ventral edge of valva where more or less deep incision developes. Aedeagus slender; a group of slender, usually fairly long cornuti present in vesica.

Female genitalia. Sterigma elongate, incised or only weakly concave (*azukivora* group) in middle of distal edge. Distal border of ostium bursae formed by small incision of sterigma, proximal edge weakly sclerotized (*azukivora* group) or membranous (*phaseoli* group). Other parts of the genitalia more or less of typical *Laspeyresiini* shape. Subgenital sternite small, incised in middle of distal edge.

The morphology of the early stages are unknown except for the following data concerning *phaseoli*. Egg greenish grey. Larva yellowish green with head and prothoracic shield yellowish brown, brown pinacula and yellowish brown thoracic legs. Chaetotaxy as in Figs. 1—3. Pupa light brown in colour, shown in Figs. 4, 5.

Bionomy. The eggs of *phaseoli*, the best known species, are deposited singly on the under surface of the leaves or on the petioles of the food plant (chiefly soybean). The larva lives from April to September, spinning together the leaves of young shoots or living in pods and stems. Pupation occurs in the feeding place of the larva; the pupa hibernating. Three or four generations yearly have been observed in southern Japan. Judging from collecting dates of other species the number of the generations varies from one (probably in the northern part



Figs. 1—5. Larva and pupa of *Matsumuraeses phaseoli* (MATS.): 1 — last instar larva, laterally, 2 — same, abdominal segments VII—X, ventrally, 3 — same, abdominal segments VIII—X, dorsally, 4 — pupa, laterally, 5 — pupa, ventrally

of the range of the genus) to several in the south. The host plants are mainly *Papilionaceae*. Particular data on the known food plants are to be found in the review of the species.

Economic importance. Only *phaseoli* and *falcana* are the pests of the soybean and *Phaseolus*.

Geographical distribution. The genus is typical of East Asia. Of the 14 species presently known 5 ones are exclusively Oriental, 2 are known from the transitional zone between the regions (Nepal) and probably are distributed also in the Oriental Region, and two are common in the Oriental and Palaearctic Regions. Five species are exclusively Palaearctic as far as we can judge from available data. Some species are known only from restricted areas or single localities but are apparently insufficiently known. The most widely distributed species is *falcana*, occurring in Nepal, southern China, Taiwan and Japan.

Systematics. The genus was placed by OBRAZTSOV (1960) between *Leguminivora* OBR. and *Collicularia* OBR. towards the end of the systematic arrangement of the tribe *Laspeyresiini*. DANILEVSKI & KUZNETSOV (1968) placed it as the second genus of the tribe beyond *Dichrorampha* GUENÉE, but DIAKONOFF (1972) suggested it belongs to the same group as the genus *Cryptophlebia* WALSINGHAM and proposed that it should be placed at the very end of the *Laspeyresiini*. The authors accept DIAKONOFF'S point of view.

DIAKONOFF mentioned in his work that the most important characters for distinguishing the species are the androconia of the hindwing and the shape of the socii, the colouration of the wings and the structure of female genitalia being less diagnostic. Our present studies indicate that the species fall into two groups. In first group belong the species closely correlated to *phaseoli*, the type-species of the genus, in which the socii are coalescent medially and somewhat produced distally. Their shape and hairs are important specifically. Another important character is the shape of the valva. An additional (insufficiently studied) character is the presence of a weak membraneous cover to the coremata if developed. The females are characterized by having an elongate sterigma incised in middle distally and weakly sclerotized proximally. In the second group (the species closely related to *azukivora*) the socii are short or ill-defined *(melanaula)*, minutely bristled or without any hair and, in some cases, partially rather well sclerotized. They are not coalescent medio-terminally. The eigth sternite possesses distinct sclerites protecting the coremata ventrally. In this group the shapes of the socii and valva are equally important and the main basis for the arrangement of the species. The valva is characterized by the rounded ventro-terminal portion of the cucullus. The females (insufficiently known) with small sterigma, weakly concave distally.

The generic position of three species seems uncertain. DANILEVSKI & KUZNETSOV (1968: 237) included in *Matsumuraeses* the species *Eucosma metagrapta* MEYRICK from Java and *Laspeyresia fabivora* MEYRICK (= *leguminis* HEINRICH) described from Colombia. Both species show some differences from the other species of this genus and are not included in this paper. The third species is

Matsumuraeses acrocosma DIAKONOFF from South Thailand, described on basis of single female. We agree with its author's opinion that the generic position is somewhat uncertain and do not include *acrocosma* in this review.

KEY TO THE SPECIES

The key is necessarily based on the male genitalia since the females are insufficiently known and show slight differences only. A key based on external differences is not practical because of the great similarity and variability of the species.

1. Cucullus trapezoid or subtriangular, not rounded ventrally; socii long-haired 2
—. Cucullus semiovate or elongate, rounded ventrally; socii short-bristled, or absent 9
2. Dorso-terminal part of cucullus produced 3
—. Dorso-terminal part of cucullus not produced 4
3. Ventro-proximal corner of cucullus strongly produced . . . . *falcana*
—. Ventro-terminal corner of cucullus weakly developed . . . . . *phaseoli*
4. Socius large, with long dense hairs (compare Fig. 10) 5
—. Socius weak, with sparce hair. 7
5. Dorsal edge of cucullus shorter than the ventral edge. . . . . *hoplista*
—. Dorsal edge of cucullus longer than the ventral edge 6
6. Dorsal apex of cucullus large, broadly rounded . . . . . *trophiodes*
—. Dorsal apex of cucullus small, rather narrow. . . . . *xantholoba*
7. Socii shorter than narrowest part of valva. . . . . *capax*
—. Socii longer than narrowest part of valva 8
8. Dorsal edge of cucullus concave (insufficient character, see p. 11). . . . . *tetramorpha*
—. Dorsal edge of cucullus not concave. . . . . *ochreocervina*
9. Distal corner of sacculus prominent, rather sharp. 10
—. Distal corner of sacculus prominent, rounded. 11
10. Dorsal apex of cucullus long, acute; distal corner of sacculus long . . . . . *felix*
—. Dorsal apex of sacculus short, rounded; distal corner of sacculus short . . . . . *vicina*
11. Cucullus long, socius ill-defined, not bristled . . . . . *melanaula*
—. Cucullus short, socius bristled. 12
12. Apex of cucullus short (Fig. 14) . . . . . *azukivora*
—. Apex of cucullus longer (Fig. 15) . . . . . *ussuriensis*

Figs. 6—9. Male genitalia: 6 — *M. phaseoli* (Mats.), „Japan, Honsyu, Izumi, Sakai-Daisen, 17. I. 1956 (bread), S. Moriuti", 7 — same species, valva of holotype, 8 — *M. falcana* (Wals.), „Sakata, Yamagata Pref., 24. X. 1969, T. Oku", 9 — valva of same species, „Japan, Honshyu, Kawati, Mt. Iwawaki. 1. IV. 1954, T. Yasuda leg."

REVIEW OF THE SPECIES

Matsumuraeses phaseoli (MATSUMURA)

(Pl. XI, figs. 1—3)

Semasia phaseoli MATSUMURA, VII. 1900, Ent. Nachr., **26**: 197.
Semasia elutana KENNEL, VIII. 1900, Dt. ent. Z. Iris, **13**: 147, pl. 5, fig. 23.

The lectotype (here designated) is a male without abdomen and data label (G. Sl.: M-6) preserved in the collection of the Hokkaido University, Sapporo. The species was described from Sapporo, Tokyo and Gifu. Several specimens from these localities and identical externally with the lectotype have been examined. This variable species is most similar to *falcana* but is characterized by the short apex of the forewing. The androconial scales situated in the anal area of the male hindwing not extending to vein *an* along wing edge. The females often with forewing almost unicolorous dark brownish to brownish grey, suffused darker postmedially or a black-brown suffusion basally.

Male genitalia (Fig. 6, 7). Socius large, with strong hairs. Valva with distinct distal angle of the sacculus. Cucullus produced dorsally at the apex, its ventral edge somewhat convex proximally.

Female genitalia (Fig. 16). Sterigma elongate, deeply incised in middle of posterior edge, somewhat variable in shape. Praegenital sternite with rounded, broad lateral lobes.

Morphology of early stages described on p. 90.

Bionomy (see p. 90). Food plants: *Phaseolus angularis* W. F. WIGHT, *Vicia faba* L., *Glycine* MAX MERR., after DANILEVSKI & KUZNETSOV *Glycine hispida* MAX. The data by DIAKONOFF (1972: 245) — *Tephrosia vogelii* HOOK, *(Papilionaceae)* concern probably another, undescribed species.

Distribution. Japan: Hokkaido, Honshu and Shikoku; N. Korea: district Phiongjang-si; USSR: Amur district. Other data in the literature uncertain, especially those of the Oriental Region.

Interpretation of the synonymy generally mistaken. OBRAZTSOV (1960: 134) synonymized *falcana*, *ochreocervina* and *trophiodes* with *phaseoli* (the figures in his publication concern the species in question, however, the male genitalia are rather inaccurately drawn). In his next paper (OBRAZTSOV, 1967: 32, 33) apart from the three mentioned species, also *metacritica*, *azukivora*, *malenaula* and *elutana* are synonymized, but only the latter one is a true synonym. KUZNETSOV (1962: 346) synonymized all these species with *elutana*. DANILEVSKI & KUZNETSOV (1968: 237 — as synonyms: *elutana*, *azukivora*, *trophiodes*, *metacritica*) and DIAKONOFF (1972: 243 — as synonyms: *elutana*, *trophiodes*, *azukivora*) partially followed OBRAZTSOV'S point of view. The redescription enclosed in the latter publication is probably partially based on the specimens from Java listed there which may belong to another, undescribed species. The type of *elutana* was figured by KUZNETSOV (1962: 347). That female is conspecific with *phaseoli*, whilst the male (paratype) is synonymous with *ussuriensis* (see p. 103).

Matsumuraeses falcana (WALSINGHAM)

(Pl. XI, figs. 4—6)

Eucelis falcana WALSINGHAM, 1900, Ann. Mag. nat. Hist. (7) **6**: 407.
Eucosma metacritica MEYRICK, 1922, Exot. Microlep., **2**: 515 — **synon. nov.**

A strongly variable species. The males are usually pale yellowish brown to cream brown with a brown pattern; the females are smaller than the males, with an ill-defined or completely atrophied pattern varying from yellow-brown to ferruginous brown or brown. The apex of the forewing is much longer than in the preceding species, acute, termen sinuate. In the hindwing of the male the androconial scales cover the anal area to vein cu_2 or even cu_1.

Male genitalia (Fig. 8, 9) characterized by strong, moderately hairy socii and distinctly convex proximal part of the ventral edge of cucullus.

Female genitalia (Fig. 17—19). Sterigma as in the preceding species, also somewhat variable; praegenital sternite with large subtriangular lateral parts.

Bionomy. Imago is on wing from beginning of April till end of November in Japan (probably three or four generations). Hosts are: *Robinia pseudoacacia* L., *Trifolium pratense* L., *Lupulus* sp. and *Glycine* MAX MERR. All the data concern Japan.

Distribution. Japan: Hokkaido, Honshu, Shikoku, Kyushu; China: Zi-kawy (type locality of *metacritica*), Taiwan; Nepal: Jiri (DIAKONOFF, 1972: 246).

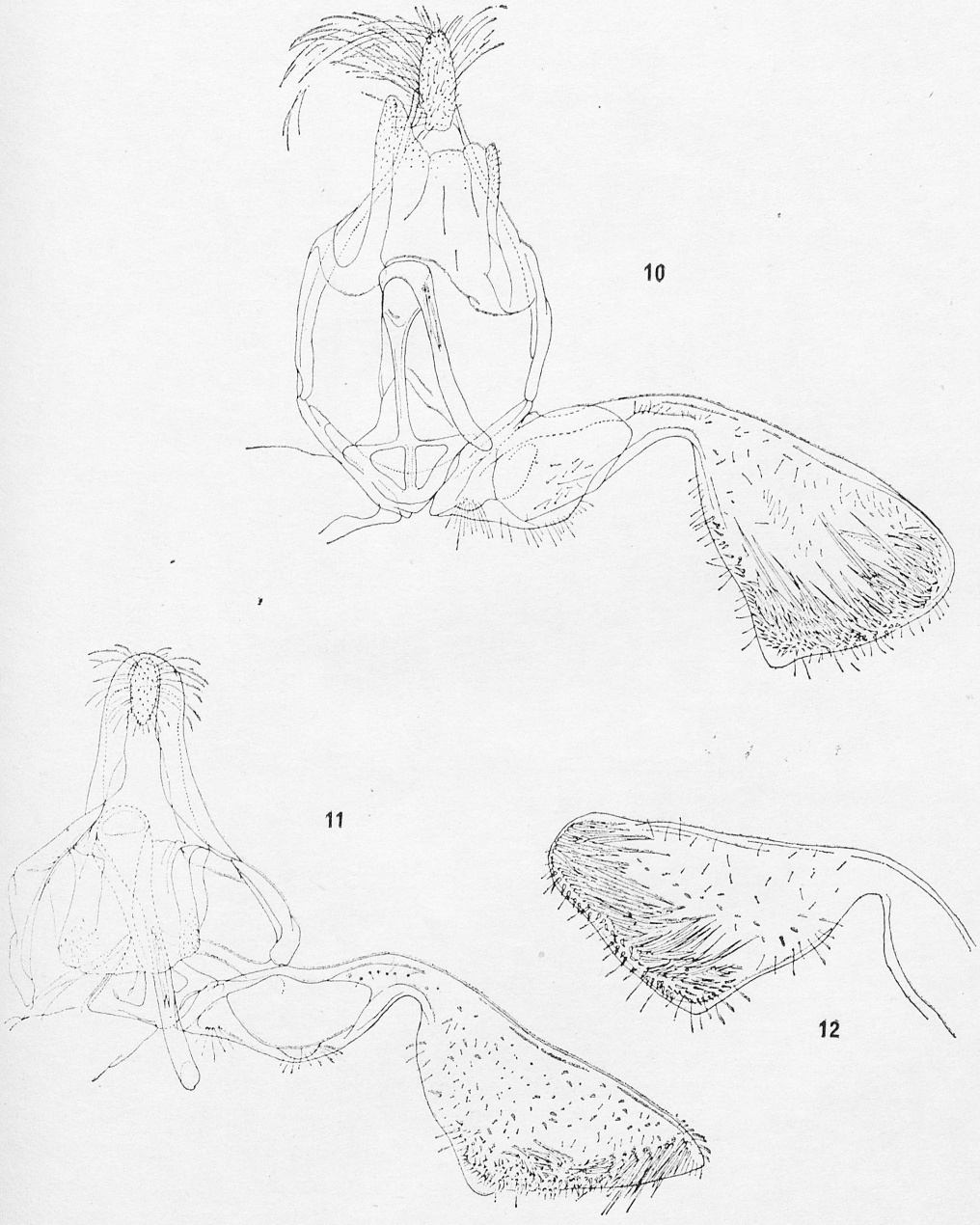
The holotype of *falcana* ("Japan (PRYER), 70560, Type", G. Sl. 5701 [BM]) is a female. The lectotype of *metacritica* was designated and illustrated by RAZOWSKI (1960: 385, Fig. 10). In the literature this species was synonymized with *phaseoli* (OBRAZTSOV, 1960: 134 — *falcana*, 1967: 33 — *falcana* and *metacritica*; DANILEVSKI & KUZNETSOV, 1968: 237 — *metacritica*), or *metacritica* was treated as a distinct species (DIAKONOFF, 1972: 246).

Matsumuraeses trophiodes (MEYRICK)

Eucosma trophiodes MEYRICK, 1908, Journ. Bombay Nat. Hist. Soc., **18**: 613.

This species was originally described from Hakgala, Ceylon. It is characterized by well developed, long hairy socii and subtriangular cucullus (Fig. 10) the dorsal apex of which is broad and rounded. A row of short spines extends from before middle the ventral edge of the cucullus. The shape of the socii and the latter character of the cucullus distinguish this species from *ochreocervina*.

The lectotype is designated and figured by CLARKE (1958: 559). *M. trophiodes* was synonymized with *phaseoli* in the following publications: OBRAZTSOV, 1960: 134, 1967: 32; DANILEVSKI & KUZNETSOV, 1968: 237 and DIAKONOFF, 1972: 243. It is, however distinguished by the shape of the valva (especially dorsal apex of the cucullus) and of the socii. The determination of this species by JANSE (1917: 175) has not been verified and seems rather doubtful, as also does that by CARADJA (1939: 12) of the specimen from China.



Figs. 10—12. Male genitalia: 10 — *M. trophiodes* (MEYR.), lectotype, 11 — *M. ochreocervina* (WALS.), holotype, 12 — left valva of same specimen

Matsumuraeses xantholoba DIAKONOFF

Matsumuraeses xantholoba DIAKONOFF, 1972, Tijdschr. Ent., **115**: 245, fig. 1.

Very similar to the preceding species but differing in having a narrower dorsal apex of the cucullus. Described on the basis of 3 males from Nepal (Prov. No. 3 East, Jubing), collected at an altitude of 1600 m in the first half of May.

Matsumuraeses ochreocervina (WALSINGHAM)

Eucelis ochreocervina WALSINGHAM, 1900, Ann. Mag. Nat. Hist. (7) 6: 407.

This species is known from a single specimen only (holotype: "Goorais Valley, 7000 feet, VIII. 1887 (LEECH), 60137"; G. SL. 5699 [BM]), all the paratypes belonging to the separate species *metacritica*.

Male genitalia (Fig. 11, 12). Socii fairly small, short hairy; valva rather slender beyond basal part, sacculus prominent distally. Cucullus subtriangular, broad and rounded dorso-terminally, somewhat convex in the proximal part ventrally, with prominent distal corner. Row of spines of cucullus extending in distal third of the ventral edge.

OBRAZTSOV (1960: 134, 1967: 32) incorrectly synonymized this species with *phaseoli* and that opinion was accepted by YASUDA (1965: 15—17). DANILEVSKI & KUZNETSOV (1968: 239) used that name for another closely related species, viz., *capax* described here (p. 99). Then DIAKONOFF (1972: 250) redescribed and illustrated the same species also as *ochreocervina*.

Matsumuraeses tetramorpha DIAKONOFF

(Pl. XI, figs. 7, 8)

Matsumuraeses tetramorpha DIAKONOFF, 1972, Tijdschr. Ent., **115**: 247, fig. 2, pl. 5.

The species is described from several localities in Nepal (holotype from Prov. No. 3 East, Kumjung, 3800 m). Originally compared with *phaseoli*, but it seems likely that the comparison was made with another, probably new species as *phaseoli* has usually been incorrectly interpreted to date. The male genitalia of the two species differ distinctly in the shapes of the valva and the socii. On the other hand we have found only very slight differences between *tetramorpha* and *ochreocervina*. The differences given in the key (p. 93) are insufficient, i.e. the shape of the dorsum of the cucullus, and that character may be variable or accidental. We can find now no other differences between the two species except for these in the external habit, but it must be mentioned that *tetramorpha* is distinctly variable.

Our material comes also from Nepal. The specimen were collected in NE Nepal at Taplejung, Dalaincha (3200 m) and Zomni (3100 m), between 3rd and 25th July.

Matsumuraeses hoplista (MEYRICK)

Argyroploce hoplista MEYRICK, 1927, Exotic. Microlep., 3: 340.

The lectotype (designated by CLARKE, 1958: 519, pl. 258, Fig. 4—4a) comes from Sinabaeng, Sumatra. The above mentioned illustration is insufficient to characterize this species. OBRAZTSOV (1967: 34) compares it with *falcana*; however, in the same paper that species is treated as synonymous with *phaseoli*. The systematic position of this species is uncertain.

Matsumuraeses capax sp. nov.

(Pl. XII, fig. 1)

Expansion 15—19 mm. Labial palpus ca. 2, ochreous grey, grey apically, or brownish grey; front and thorax greyish cream, tegula partially brownish; abdomen greyer. Forewing expanding terminally; costa curved outwards throughout; apex fairly long, acute; termen somewhat obligue, sinuate beyond apex. Ground colour greyish cream to pale brownish cream, indistinctly suffused with brownish or greyish in basal third of wing and along dorsum and tornal half of termen; costa more grey or grey-brown, black strigulate. Broadest part of suffusion in distal third of wing but not reaching apex; weak suffusion in disc where some ferruginous scales present. Some black dots dispersed all over wing surface. A row of four black dots parallel to tornal portion of termen, some smaller ones along it more medially. Fringes concolourous with ground colour, or mixed grey, greyer at tornus. Hindwing broad, pale brownish grey paler basally; fringes whitish grey with grey median line.

Variability. Some specimens with ill-defined dark suffusions rather greyish cream, some other with ochreous shades in median area of wing and subcostally. Some more contrasting specimens with the ground colour mixed ochreous and distinct grey costal suffusions.

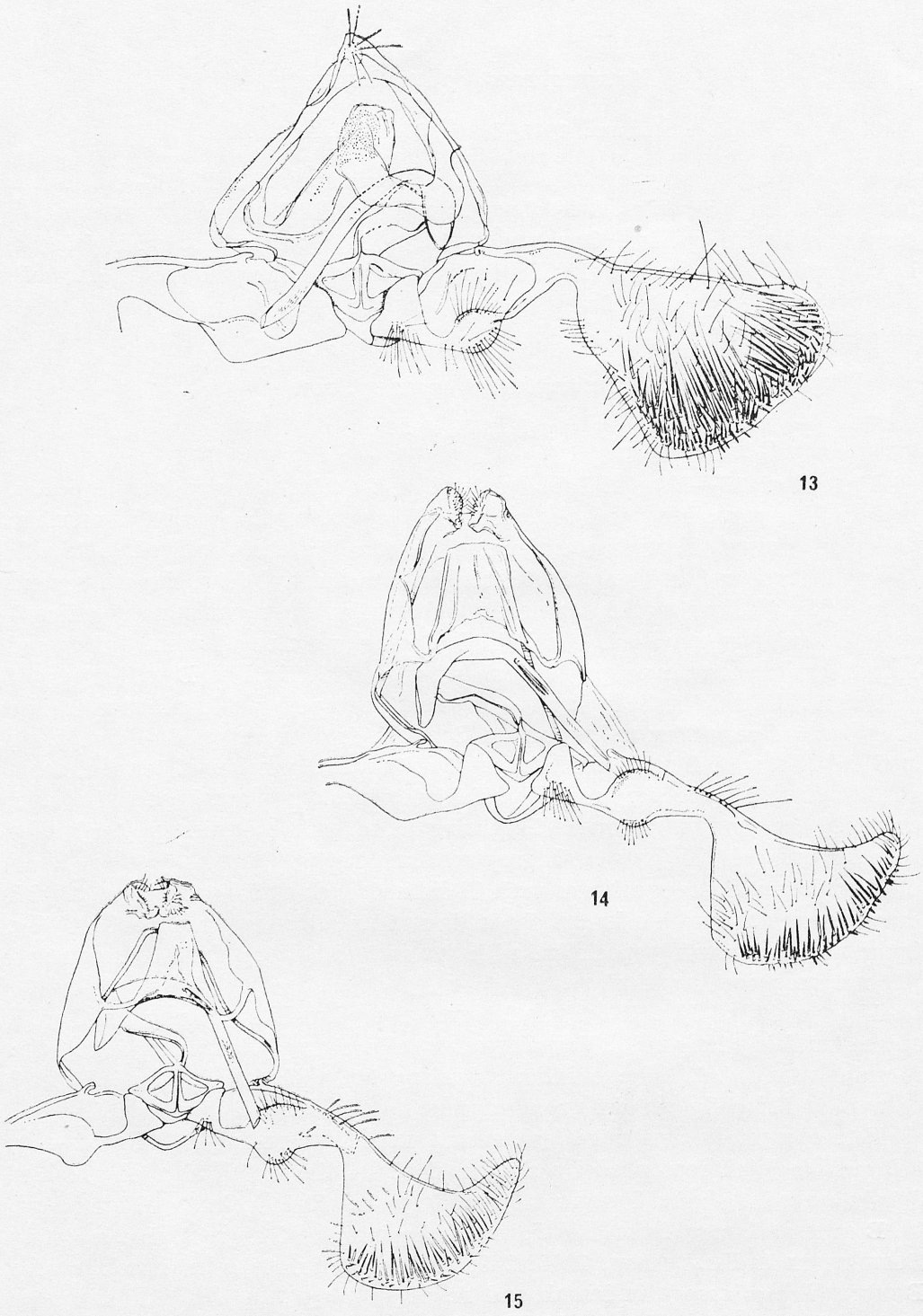
Male genitalia (Fig. 13). Top of tegumen produced; socii very small with sparse but fairly long hairs. Valva broad basally, strongly narrowing in middle; sacculus rounded distally; cucullus subtriangular, with broad, rounded distal corners and slightly convex proximal part to the ventral edge.

Female genitalia illustrated by DANILEVSKI & KUZNETSOV (1968, fig. 32 — as *ochreocervina*), characterized by slender sterigma the distal edge of which is deeply incised medially. Praegenital sternite with subtriangular lateral portions.

Bionomy. Imago from mid-June till beginning of August. Larva (after DANILEVSKI & KUZNETSOV, 1968: 239) on leaves of *Astragalus membranaceus* BUNGE, (*Leguminosae*), in March and April.

Distribution. Mongolia: S. W. Kentei: Sutchante Noin-Ula, Central aimak. Siberia: Hamar-Daban Range; Amur District: Klimoitsy, Simonovo.

This species was previously erroneously determined by DANILEVSKI & KUZNETSOV (above work), RAZOWSKI (1966: 501) and DIAKONOFF (1972: 250) as



Figs. 13—15. Male genitalia: 13 — *M. capax* sp. nov., paratype, „Mongolia: Central aimak, SO von Somon Bajanzogt, 1600 m. Exp. Dr. Z. Kaszab, 1966. Nr. 751, 27. VII. 1966", 14— *M. azukivora* (Mats.), „Tsunagi, Iwate, Honsyu, 25. IV. 1968, T. Oku" 15 — *M. ussuriensis* (Car.), without data label

ochreocervina. It belongs in the *phaseoli* group having the smallest socii of the coalescent, long-haired type and the valva similar to that in *ochreocervina*. The main differences between the two species are found in the socii.

Holotype, male labelled: "Mongolia, Central aimak, SO von Somon Bajanzogt, 1600 m, Exp. Dr. Z. KASZAB, 1966; Nr. 751, 27. VI. 1966". Sixteen paratypes (all males) listed in two papers by RAZOWSKI (1966: 501, 1972: 151) collected in Central and Bulgan aimaks. The holotype and two paratypes in the collection of the Institute of Systematic and Experimental Zoology, PAS, Kraków, one paratype in the coll. of University of Osaka Prefecture, remainder in the Hungarian Zoological Museum, Budapest.

Matsumuraeses azukivora (MATSUMURA)

(Pl. XII, fig. 2, 4)

Thiodia azukivora MATSUMURA 1910, Dai-nippon Gaityû Zensyo, **1**: 165, fig. 164.

The redescription of this species is as follows: labial palpus ca. 1·5, brownish grey, brownish cream above; thorax paler with weak ochreous admixture and a weak transverse stripe beyond base of tegula. Forewing broad, distinctly expanding terminally, costa somewhat bent outwards; apex short; termen sinuate, rather weakly oblique. Ground colour yellowish-brownish grey suffused at places with same colour, more brown grey or diffusely spotted so from about middle length of wing becoming weakly paler terminally. Apical area mixed with whitish grey. Black spots at tornal area distinct, some additional spots towards subapical area. Fringes pale brownish yellow, browner mixed with ferruginous basally. Hindwing fairly broad, brownish, rather dark; fringes whitish grey to whitish brown, with a brownish or yellowish brown basal line.

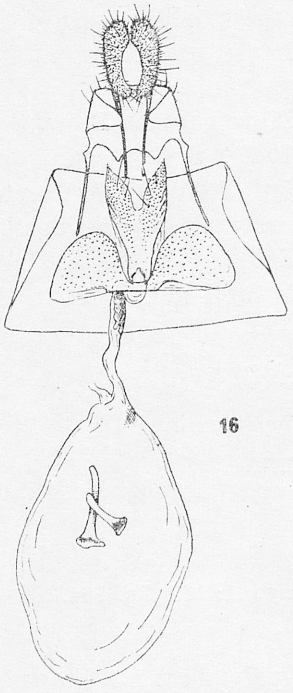
Male genitalia (Fig. 14). Socius short-bristled; valva rather slender with sacculus rounded distally, deeply incised beyond it; cucullus broad, rather rounded ventrally with short apical portion.

Female genitalia (Fig. 20) with delicate, short sterigma and fairly short praegenital sternite.

Bionomy. Imago collected in May. Host: *Phaseolus angularis* W. F. WIGHT as mentioned in the original description and probably *Wisteria floribunda* DC. (*Papilionaceae*).

Distribution. The species is described from Hokkaido and has since been found also at Hoshyu, Japan.

KUZNETSOV (1962: 346) synonymized this species (asukivora [sic!]) with *elutana* which is conspecific with *phaseoli*. OBRAZTSOV (1967: 32) and DIAKONOFF (1972: 243) were of same opinion. The lectotype here designated is a specimen without data label (genitalia on slide M-12).



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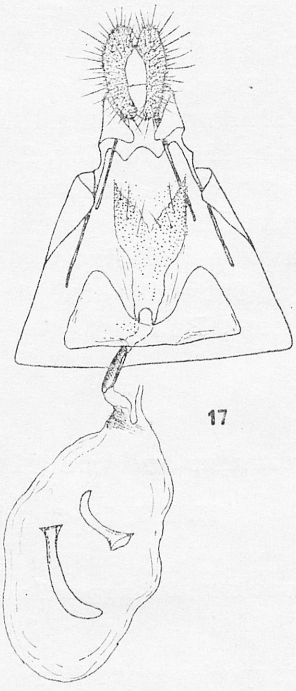

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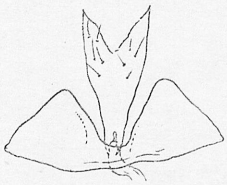

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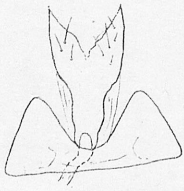

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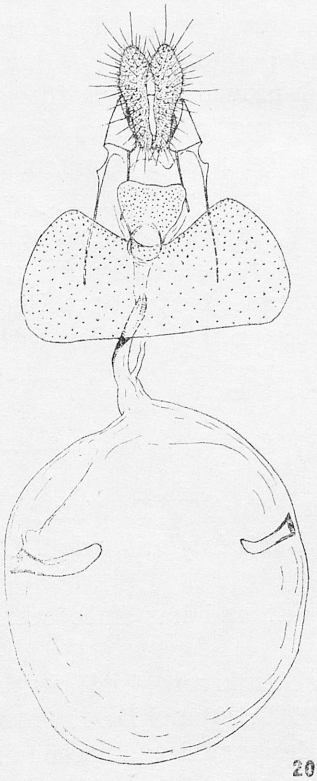

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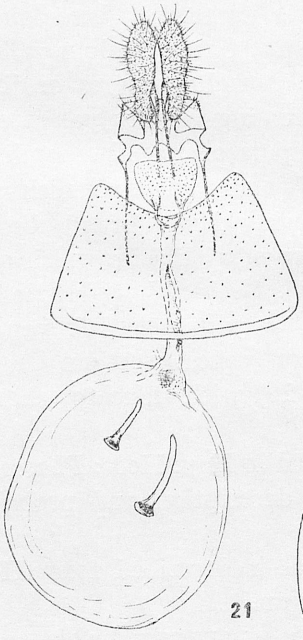

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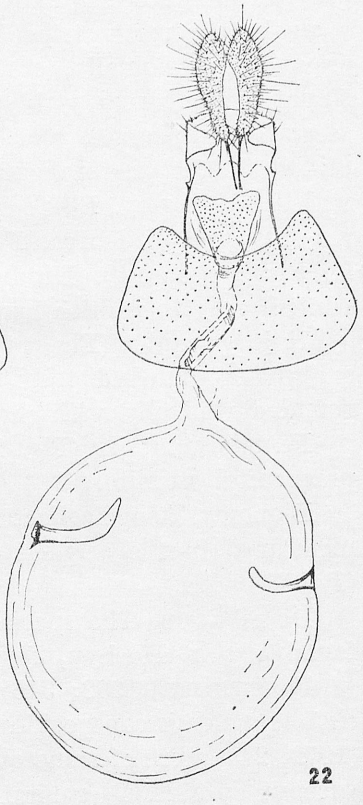

22

Matsumuraeses ussuriensis (CARADJA)

(Pl. XII, fig. 3)

Ancylis latipennis var. *ussuriensis* CARADJA, 1916, Dt. ent. Z. Iris, 30: 71.
Matsumuraeses monstruosana KUZNETSOV, 1962, Trudy zool. Inst., 30: 346, fig. 8 — **synon. nov.**

Redescription: labial palpus as in preceding species, pale grey; head and thorax pale, more brownish. Forewing hardly expanding terminally, with costa weakly curved outwards throughout; apex rather short, rounded; termen less sinuate, more oblique than in preceding species with weak angulation at vein m_3. Ground colour pale brownish cream, grey along costa, with darker diffused spots- brown dots along both edges, a transverse brown mixed with ferruginous suffu, sion along costa and postmedially, grey shade at 3/4 of wing followed by whitish suffusion reaching termen. A row of three large and two minute black spots in tornal area. Fringes whitish except at tornus and from beyond median line. Hind wing whitish grey darker and slightly mixed with brownish at apex, without dark group of androconial scales anally; fringes whitish, with a grey median line.

Male genitalia (Fig. 15) as in the preceding species but with dorso-apical portion of cucullus longer.

Female genitalia as in Fig. 21.

Bionomy. Imago collected from beginning of May till beginning of June at Primorskij Kraj and in April and July at Honshyu where it occurs probably at least in two generations yearly. Host: *Wisteria floribunda* D.C.

Distribution. U.S.S.R.: Primorskij Kraj; Japan: Honshyu.

M. ussuriensis was described from Chabarovsk (lectotype designated by RAZOWSKI, 1971: 496, fig. 89), *monstruosana* from Jakovlevka (U.S.S.R., Primorskij Kraj) on the basis of 29 specimens. This species differs very slightly from *azukivora* having only much slender forewing and more oblique, less sinuate termen and somewhat longer apical part of the cucullus. The differences in the female genitalia are indistinct and occur in the shape of the sterigma and in the length of the praegenital sternite. The material examined is, however, insufficient to decide whether the two forms really represent distinct species. KENNEL describing his *elutana* (1900: 147) recorded a male which obviously belongs to this species (fig. 22) but the description was based on the female. The same mistake is made by that author in his monograph of the Palaearctic *Tortricidae*.

Figs. 16—22. Female genitalia: 16 — *M. phaseoli* (MATS.), „Japan, Honshyu, Izumi, Sakai--Daisen (bred), 18. VII. 1955, S. MORIUTI", 17 — *M. falcana* (WALS.), „Sakata, Yamagata Pref., Em. [erged] 28. I. 1970, T. OKU leg.", 18 — sterigma and praegenital sternite of same species, „(Senzu), Izu-Oshima, Jap. [an], Nov., 24. 1963, T. MAENAMI leg.", 19 — same, „Japan, Honsyu, Yamato: Hiranuta, 3. IX. 1954, T. YASUDA", 20 — *M. azukivora* (MATS.), „Hosono, Iwate, 8. VIII. 1969, T. OKU leg.", 21 — *M. ussuriensis* (CAR.), „Hosono, Iwate, Honshu, 8. VIII. 1969, T. OKU leg.", 22 — *M. vicina* KUZN., „Nagano, Todai, 12. VIII. 1972, F. KOMAI"

Matsumuraeses vicina (KUZNETSOV)

(Pl. XII, fig. 5)

Matsumuraeses vicina KUZNETSOV, 1973, Entom. Obozr., **52**: 694, fig. 19.

This species was originally described from China (West Tien-mu-shan, 1600 m, Prov. Chekiang, 28. V. 1932, H. HÖNE) on the basis of a single male. Like other species of this genus *vicina* is variable in colouration. In the male genitalia the variability is very slight and concerns the shape of the cucullus.

Female genitalia (Fig. 22) very similar to those of the two preceding species but with the sterigma more slender, shorter and more strongly broadening terminally.

Bionomy. Imago (8 specimens examined) collected in May, August and October; in Japan it occurs probably in three generations yearly.

Distribution. China: West Tien-mu-shan; Japan: Honshyu (Sado Island, Niigata, Nagano and Wakayama).

Externally very similar to *azukivora* but distinct in the genitalia of the both sexes.

Matsumuraeses elpisma DIAKONOFF

Matsumuraeses elpisma DIAKONOFF, 1972, Tijdschr. Ent., **115**: 242, pl. 1, fig. 1, 2, pl. 4, fig. 1, 2.

Described from East Java (Tengger Range, Tosari, 1770 m). The species characterizes by the very short dorso-terminal portion of the cucullus in the male and short sterigma, in the female.

Bionomy. Imago collected from end of January till beginning of April. Host: *Crotalaria* DILL. (*Papilionaceae*).

Known to us from the original description only.

Matsumuraeses felix DIAKONOFF

(Pl. XII, fig. 6)

Matsumuraeses felix DIAKONOFF, 1972, Tijdschr. Ent., **115**: 243, pl. 2, pl. 3.

Externally similar to *azukivora* and *vicina*. Distinguished by the long upwards curved dorso-apical portion of the cucullus. The female is unknown.

Bionomy. Imago collected 24. III. in East Java and towards the end of November in Taiwan. Host: *Litsea* LAM. (*Lauraceae*), after original description.

Distribution. East Java (holotype from northwestern slope of Mt. Ardjoeno, Tretes, 900 m); Taiwan: Tipon.

Matsumuraeses melanaula (MEYRICK)

Eucosma melanaula MEYRICK, 1916, Exotic Microlep., **2**: 17.

Described from Pusa (Bengal); lectotype designated by CLARKE (1958: 372, pl. 185, fig. 1—1a). The species is characterized by the large upwards curved dorso-apical portion of the cucullus and lack of the haired socii (OBRAZTSOV, 1967: 34 erroneously mentions that they are present). Female unknown.

An excellent redescription is given by DIAKONOFF (1972: 248, fig. 3). KUZNETSOV (1962: 346) mistakenly synonymized it with *elutana* (= *phaseoli*), OBRAZTSOV in the above mentioned publication lists further misidentifications.

Bionomy. Imago in October at an altitude of 1400—1600 m in Nepal.

Distribution. Bengal (Pusa) and Nepal: Kathmandu Valley (DIAKONOFF, 1972: 250).

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STRESZCZENIE

Praca zawiera krótką charakterystykę rodzaju i klucz do oznaczania gatunków ułożony na podstawie samczych aparatów kopulacyjnych. W przeglądzie gatunków przeprowadzono rewizję synonimiki. Dwie nazwy zostały zsynonimizowane, a jeden gatunek (*Matsumuraeses capax* sp. nov.) opisany jako nowy.

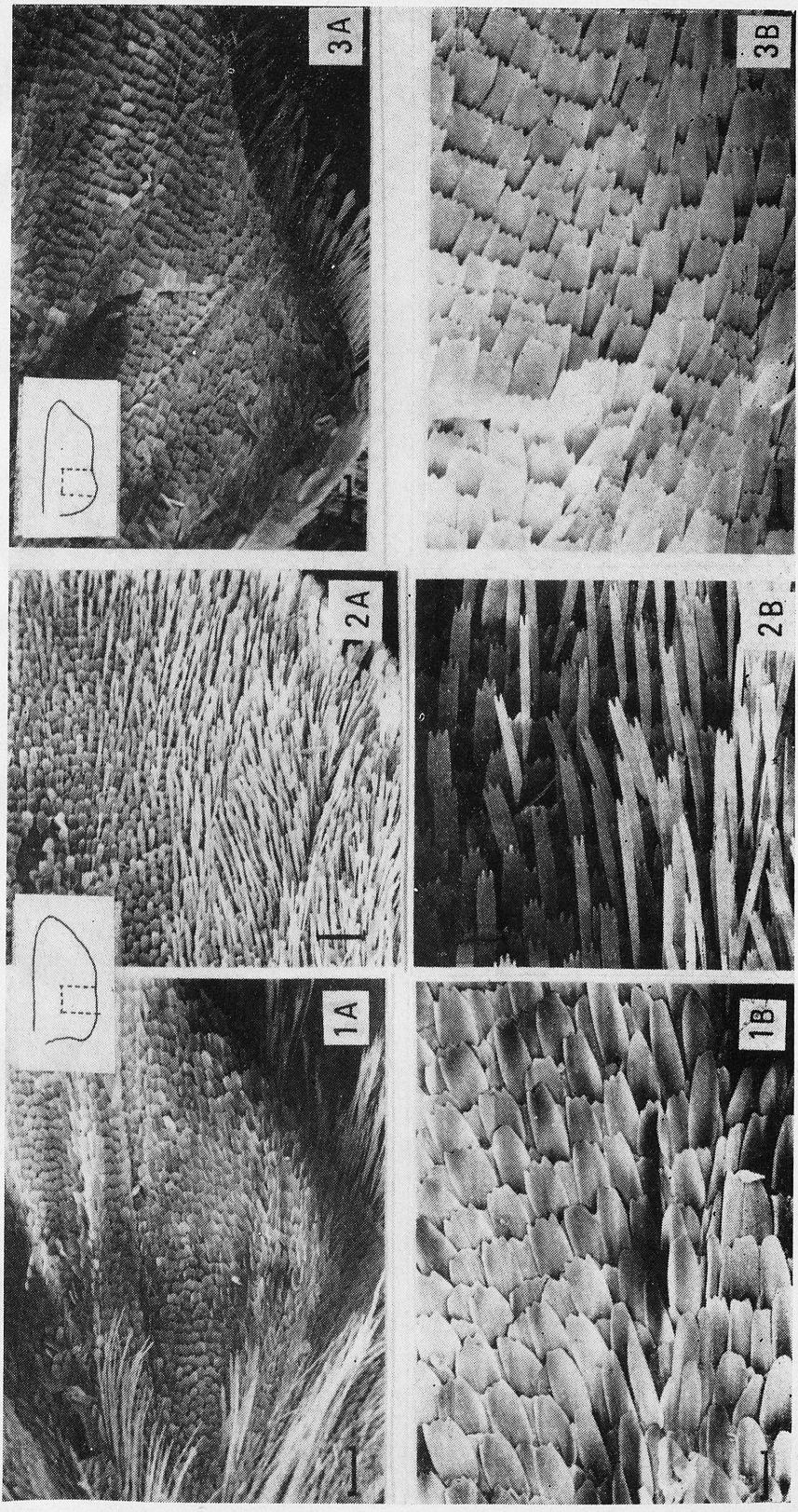
РЕЗЮМЕ

Работа содержит краткую характеристику рода и определительные таблицы видов, составленные на основании копулирующих аппаратов самцов. В обзоре видов проведено ревизию синонимики. Два названия синонимизировано, а один вид (*Matsumuraeses capax* sp. nov.) описано, как новый.

PLATES

Plate IX

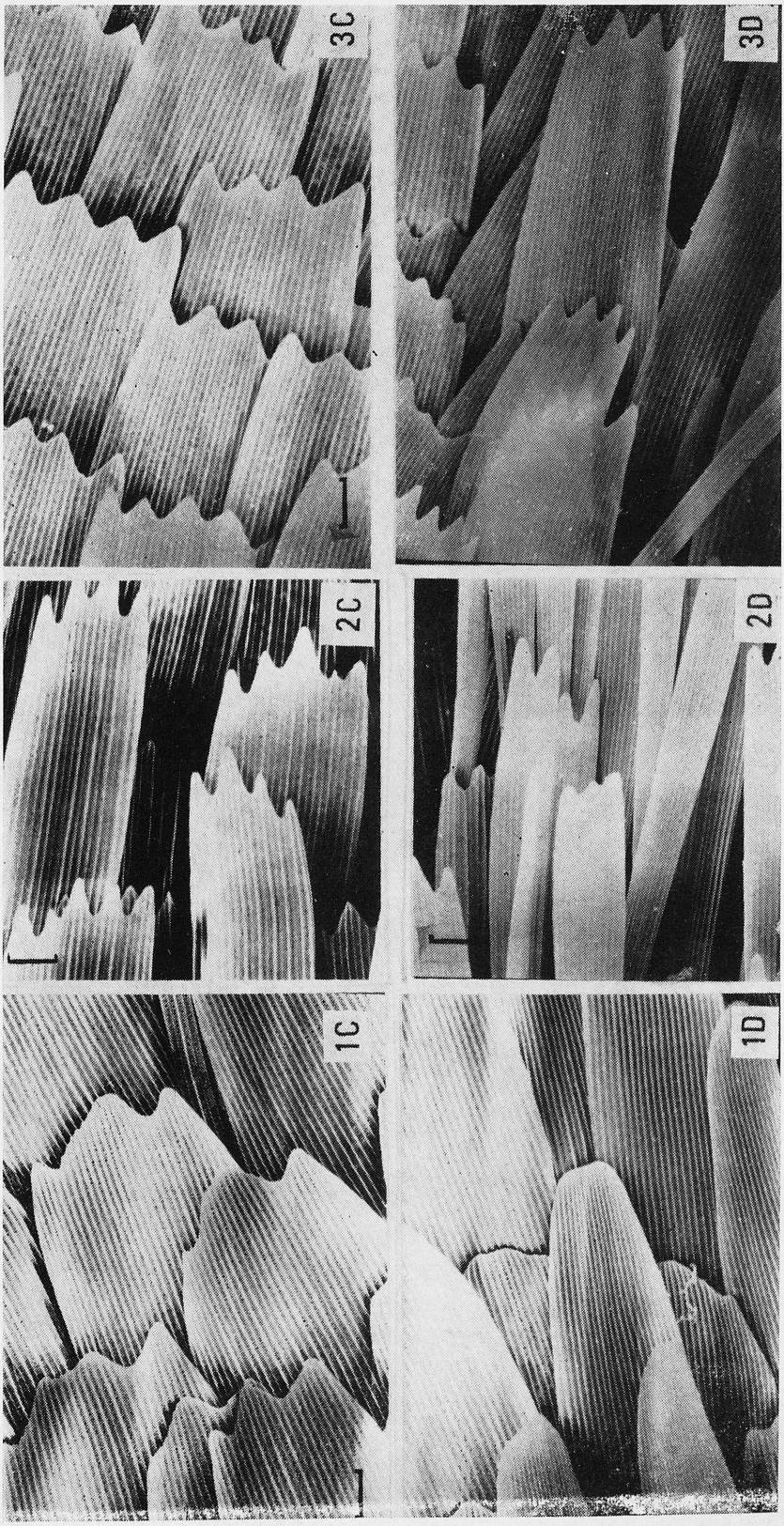
Scanning electron micrograph of anal area of male hindiwing and scales. 1 — *Matsumuraeses phaseoli* (MATS.), 2 — *M. falcana* (WALS.), 3 — *M. vicina* KUZN.
A — anal area of hindwing. Scale 200 μ.
B — scales of anal area of hindwing. Scale 50 μ.



J. Razowski, T. Yasuda
T. Yasuda phot.

Plate X

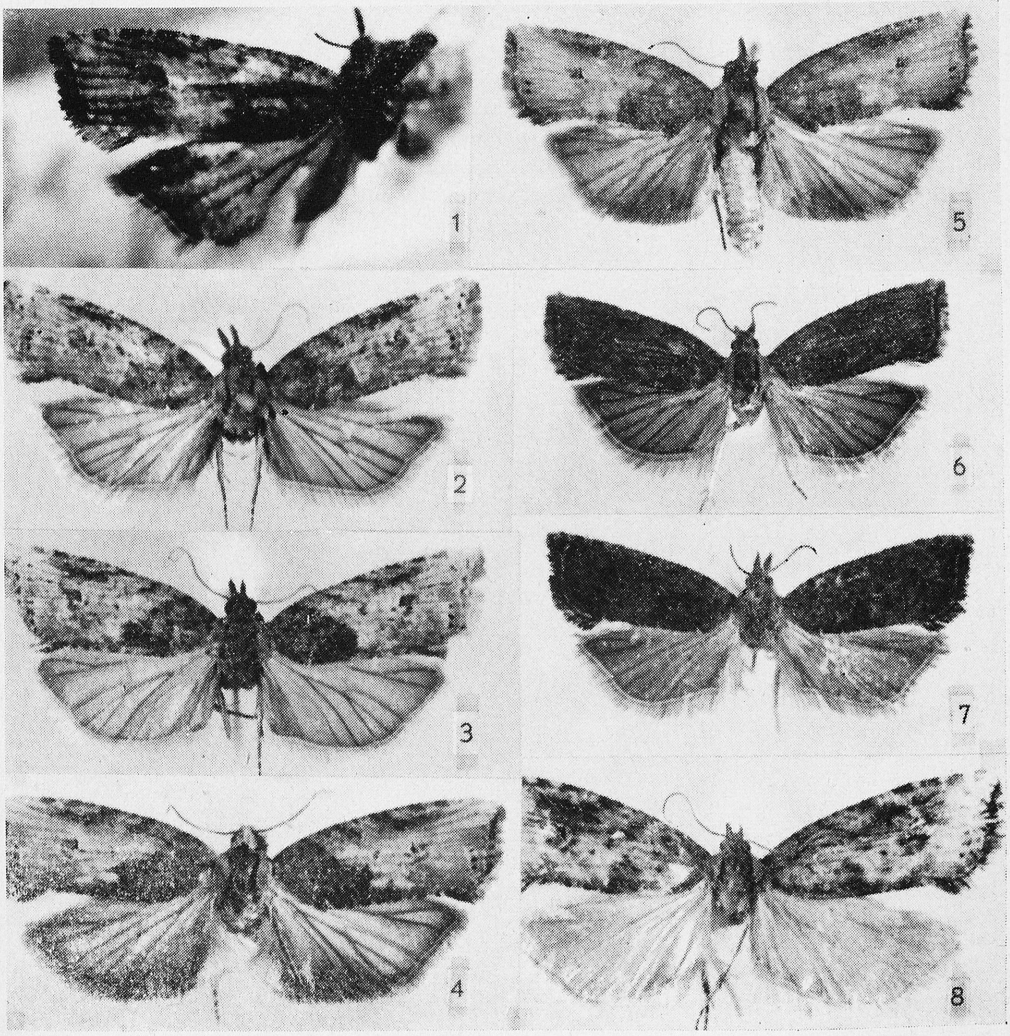
Scanning electron micrograph of scales of male hindwing. 1 — *Matsumuraeses phaseoli* (MATS.) 2 — *M. falcana* (WALS.), 3 — *M. vicina* KUZN. Scale 10 μ
C — normal scales
D — androconial scales



J. Razowski, T. Yasuda
T. Yasuda phot.

Plate XI

1. *Matsumuraeses phaseoli* (MATS.), lectotype, male
2. *Matsumuraeses phaseoli* (MATS.), male, „Shikoku, Kagawa, 12. IV. 1951"
3. *Matsumuraeses phaseoli* (MATS.), male, same label
4. *Matsumuraeses falcana* (WALS.), male, „Shikoku, Kochi, 26. V. 1951"
5. *Matsumuraeses falcana* (WALS.), male, same label
6. *Matsumuraeses falcana* (WALS.), female, „Sakata, Yamagata Pref., 18. I. 1970, T. OKU, emerged from *Glycine* MAX MERR."
7. *Matsumuraeses tetramorpha* DIAK., female, „N. E. Nepal, Dalaincha, alt. [itude] 3200 m, 25. VII. 1962, T. YASUDA"
8. *Matsumuraeses tetramorpha* DIAK., male, same label

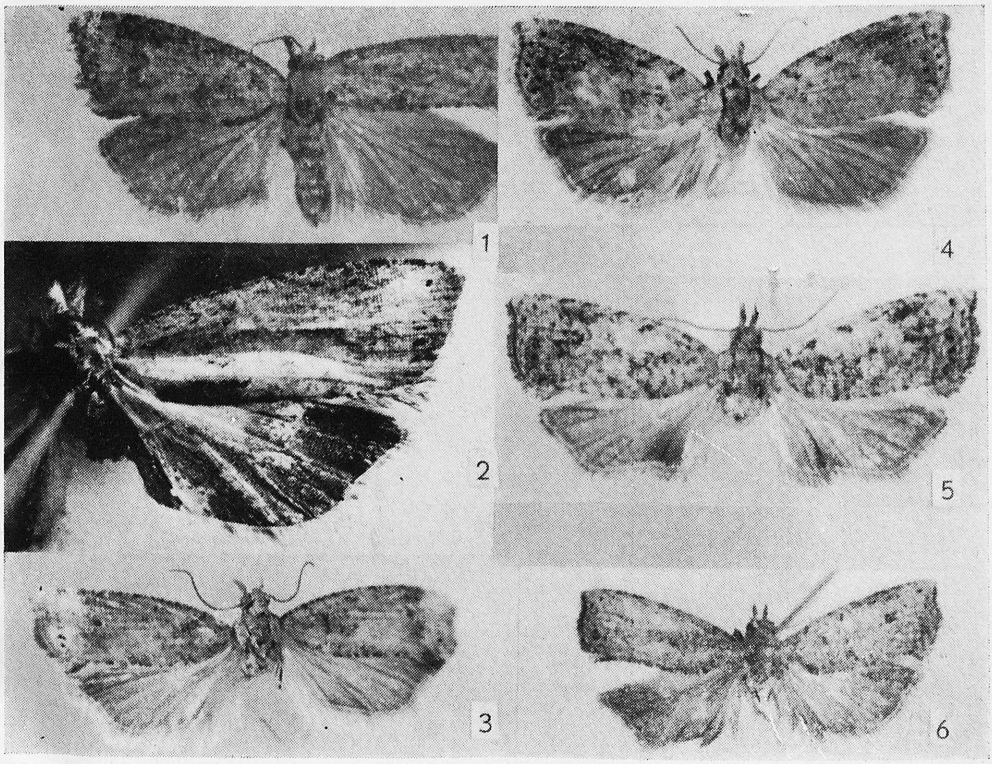


J. Razowski, T. Yasuda

T. Yasuda phot.

Plate XII

1. *Matsumuraeses capax* sp. nov., paratype
2. *Matsumuraeses azukivora* (MATS.), lectotype, male
3. *Matsumuraeses ussuriensis* (CAR.), male, „Tsunagi, Iwate, Honshu, 27. V. 1967, T. OKU"
4. *Matsumuraeses azukivora* (MATS.), female, „Tsunagi, Iwate, 27. V. 1967, T. OKU"
5. *Matsumuraeses vicina* KUZN., male, „Todai, Nagano, 12. VIII. 1972, F. KOMAI"
6. *Matsumuraeses felix* DIAK., male, „Taiwan, Tipon, E. [nd] X. 1936, S. ISSIKI"



J. Razowski, T. Yasuda
T. Yasuda phot.

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